

Global Extreme Daily Wind Speed

The global extreme daily wind speed has been created from the reanalysis dataset of MERRA220 (Modern Era Retrospective analysis for Research and Applications, Version 2). MERRA2 provides data beginning in 1980 and was introduced because of advances made that enable assimilation of modern hyperspectral radiance and microwave observations, along with GPS-Radio Occultation datasets. MERRA2 also uses NASA's ozone profile observations that began in late 2004. Additional advances in both the GEOS model and the GSI assimilation system are included in MERRA2. The spatial resolution remains at about 50 km in the latitudinal direction. Moreover, MERRA2 is the first longterm global reanalysis to assimilate spacebased observations of aerosols and represent their interactions with other physical processes in the climate system. MERRA2 includes a representation of ice sheets over Greenland and Antarctica.

The MERRA2 provides hourly wind time series. We take maximum hourly wind as the maximum daily value and then carry out extreme value analysis. There are nine average reoccurrence intervals (ARIs in a year) of 50, 100, 500 and 1000years provided along with 5 and 95% confidence intervals for RCPs 4.5 and 8.5.